



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,865	01/04/2001	Nicholas P. Wilt	MSI-661US	3979
22801	7590	04/06/2004	EXAMINER	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			PATEL, KANJIBHAI B	
			ART UNIT	PAPER NUMBER
			2625	

DATE MAILED: 04/06/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/754,865

Applicant(s)

WILT, NICHOLAS P.

Examiner

Kanji Patel

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 10-13, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 4, 9, 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152..

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. Applicant's amendment filed on 1/21/04 (Paper No. 5/a) has been entered and made of record.

Drawings

2. The drawings were received on 1/21/04. These drawings are approved by the examiner.
3. Applicant's arguments, see pages 8-13 of the remarks, filed 1/21/04, with respect to the rejection of claims 1-16 under 102(b) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Otsuka et al. (US 5,430,810) and Fujimoto (US 5,864,779).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-8, 10-13 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Otsuka et al. (herein after referred to Otsuka) (US 6,263,089 B1; already on record).

For claim 1 Otsuka discloses method comprising:

providing image data (in figure 1, section 1 is a source data which provides an input image data to input unit 10; also in figure 2, input unit 30 provides an input image data; further in figure 3, step 10 provides an input image sequence; see also column 15, lines 33-43; column 16, lines 7-15, lines 20-21);

performing a Hough transform on the image data (unit 104 in figure 2; and step 14 in figure 3 performs Hough transform on the image data; also see column 16, lines 31-38), using a host processor (at least figure 1 reads on host processor; also see column 15, lines 33-62; the processor system 16 may be formed by a general-purpose CPU providing high speed operation) and operatively configured graphics processor (in figure 2, processor 100 reads on a graphics processor; column 17, for example, a motion trajectory extraction unit 102 constructs motion trajectory which is drawn by the edge of contour of the target within the image providing graphical information).

For claim 2, Otsuka discloses the method wherein the graphics processor is configured to count votes in a resulting Hough transform voting buffer (at least 3-D vote distribution in figure 7 and 3-D voting space memory in figures 2 and 6 provide voting information; see column 16, lines 39-67).

For claims 3, 8 and 13, Otsuka discloses the method wherein the graphics processor is configured to convolve image values and provide corresponding results to the host processor (column 8, lines 46-58; calculation of weighted sum reads on convolution broadly).

For claim 5, Otsuka discloses the method wherein the graphics processor performs a histogram computation (figures 11, 14, 15, 18) to find the maxima value in the Hough transform voting buffer.

For claims 6 and 11, see the rejection of claim 1 above.

For claims 7 and 12, see the rejection of claim 2 above.

For claims 10 and 15, see the rejection of claim 5 above.

Claim 16 is rejected under 35 U.S.C. 102 (b) as being anticipated by Fujimoto (US 5,864,779).

For claim 16, Fujimoto discloses a method comprising, causing dedicated graphics (column 1 line 66 to column 2 line 2; column 7, lines 47-50; figure 10) hardware to support **at least one** of the following step associated with a Hough transform algorithm (column 1, lines 37-51):

Quantizing (step 21, in figure 16; column 6, lines 60-67; column 8, lines 32-36; column 10, lines 20-25) a bounded portion of a parameter space that may contain a desired feature;

for each discrete (column 13, lines 31-35) quantized parameter combination, allocating an incrementable (column 10, lines 40-43) accumulator (figs. 1, 7-8, 12, 21; storage storage unit reads on accumulator);

gathering observations that can mapped into the parameter space (figures 7-9, 12, 13, 20);

for each observation, incrementing each of the accumulators that corresponds to parameter combinations that have produced the observation (figures 7-9, 12-13, 20-21).

Other prior art cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee (US 5,054,098) discloses a method of detecting the skew angle of a printed business form.

Allowable Subject Matter

6. **Claims 4, 9, and 14** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For claims 4, 9 and 14, the prior art on record fails to teach or suggest, alone or in combination, an alpha-blending operation that selectively increments accumulators that correspond to parameter combinations that are likely

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kanji Patel** whose telephone number is (703) 305-4011. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 6:30 p.m. Friday off.

If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, **Mehta, Bhavesh**, can be reached on (703) 308-5246.

Any inquiry of general nature or relating to the status of this application should be directed to the **Group receptionist** whose telephone number is (703) 305-3800. The **Fax number** for this group is (703) 306-9306.



Kanji Patel
Patent Examiner
Group Art Unit 2625
April 3, 2004